

TOSHIBA

STEREO RADIO CASSETTE RECORDER

RT-SX25



SPECIFICATIONS

Cassette tape used:	C-30, C-60, C-90, C-120	Speakers:	120mm (dia.) dynamic x 2 20mm (dia.) piezo-electric type x 2
Tape speed:	4.8 cm/sec.	Jacks:	[MIC] jack x 2 Impedance 200 ohm to 2K ohm
Track system:	Four-track, two-channel stereo- phonic		[PHONES] jack x 1 [SPEAKER] jack x 2
Recording system:	AC bias (65 kHz)	Power supply:	AC 110V-127V/220V-240V 50/60 Hz
Erasing system:	Multipole magnet erasing		DC 9V IEC R20 ("D" cell) x 6
Frequency response:	60 Hz to 10 kHz	Output power:	2.3W x 2, 10% Distortion
Receiving frequency:	FM: 88 MHz to 108 MHz SW ₂ : 7.5 MHz to 22 MHz SW ₁ : 2.3 MHz to 7.5 MHz MW: 526.5 kHz to 1606.5 kHz	Power consumption:	13W
Intermediate frequency:	FM: 10.7 MHz SW ₁ , SW ₂ , MW: 455 kHz	Dimensions:	550(W) x 216(H) x 130(D) mm
Antenna:	FM, SW ₁ , SW ₂ : telescopic antenna MW: ferrite-core antenna	Weight:	3.3 kg (without batteries)

Specifications are subject to change without notice.

1. OPERATING CONTROLS

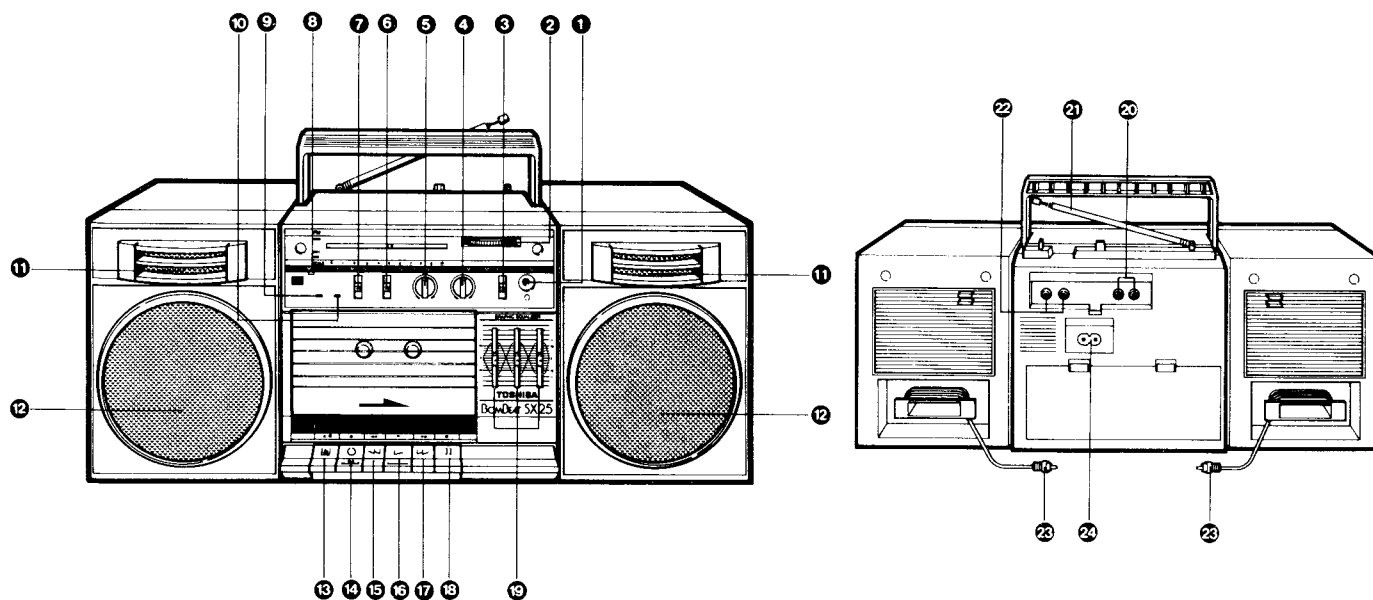


Figure 1

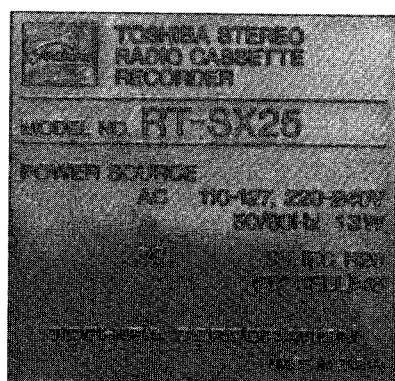
- ① [PHONES] Jack
- ② Tuning Knob
- ③ [MODE/BEAT] Selector
- ④ [VOLUME] Control
- ⑤ [BALANCE] Control
- ⑥ [FUNCTION] Selector

Note: RADIO [OFF]/TAPE position. This unit remains connect to mains supply in the RADIO [OFF]/TAPE position. Disconnect the power cord when the unit is not going to be used for a long time.

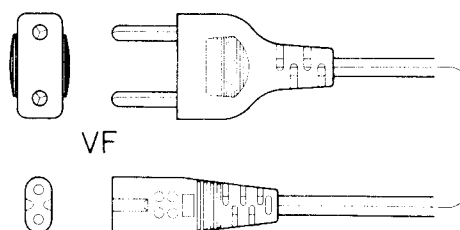
- ⑦ [AM BAND] Selector
- ⑧ [MIC] Built-in Microphone
- ⑨ [BATTERY] Indicator
- ⑩ [FM STEREO] Indicator

- ⑪ Tweeters (Speakers for high-pitched sound)
- ⑫ Woofers (Speakers for low to mid-range sound)
- ⑬ [EJECT/STOP] Button
- ⑭ [ONE TOUCH RECORD] Button
- ⑮ [REW] Button
- ⑯ [PLAY] Button
- ⑰ [FF] Button
- ⑱ [PAUSE] Button
- ⑲ [GRAPHIC EQUALIZER] Controls
- ⑳ [MIC] Jacks
- ㉑ Telescopic Antenna
- ㉒ [SPEAKER] Jacks
- ㉓ Speaker Plug
- ㉔ [AC POWER] Socket

Name Label



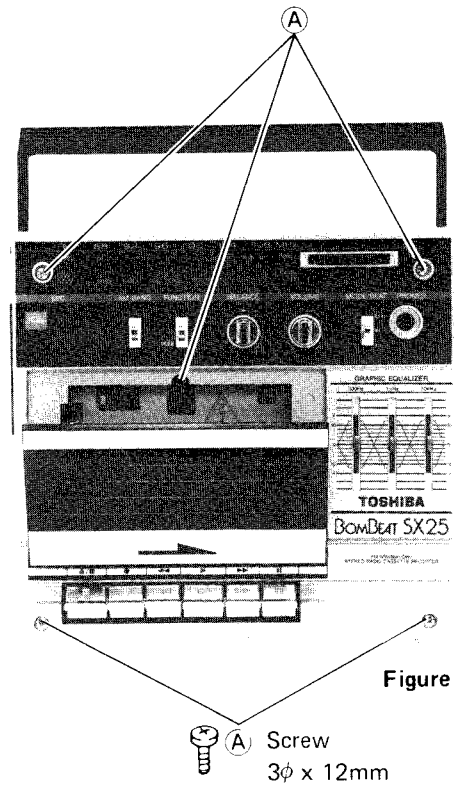
Power Cord



2. DISASSEMBLY INSTRUCTIONS

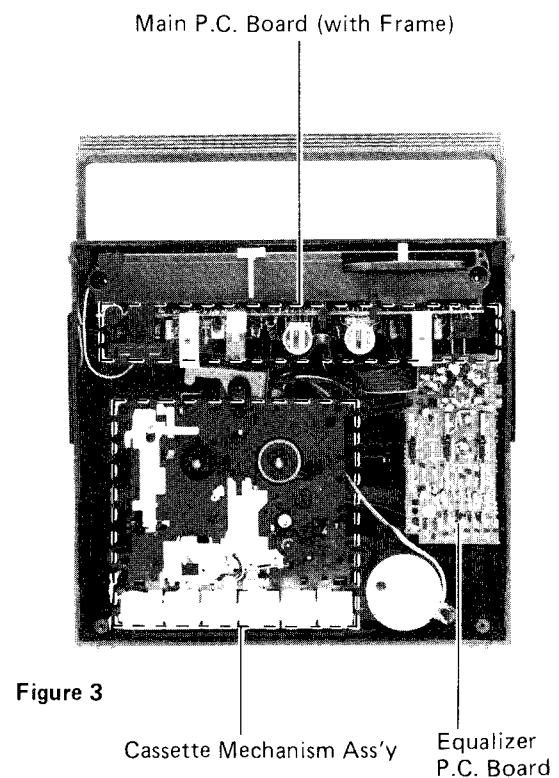
FRONT CABINET REMOVAL

1. Open the cassette cover by pressing the Eject/Stop button.
2. Unscrew five screws (A) and separate the front cabinet from the back cabinet. See Figure 2.
3. Separate the front cabinet from the back cabinet.



EQUALIZER P.C. BOARD, CASSETTE MECHANISM ASS'Y AND MAIN P.C. BOARD REMOVAL

1. Separate the Equalizer P.C. Board from the back cabinet.
2. Separate the cassette mechanism ass'y from the back cabinet.
3. Lift up the Main P.C. Board from the back cabinet.



3. DIAL CORD RESTRINGING

1. Turn the shaft of the variable capacitor fully clockwise.
2. Thread the dial cord through the hole on the groove of the drum and hook the spring on the appointed hole.
3. Wind the dial cord in the steps ① to ⑦.
4. After restringing the dial cord, turn the tuning shaft counterclockwise, then set the dial pointer at "0" point on the scale.

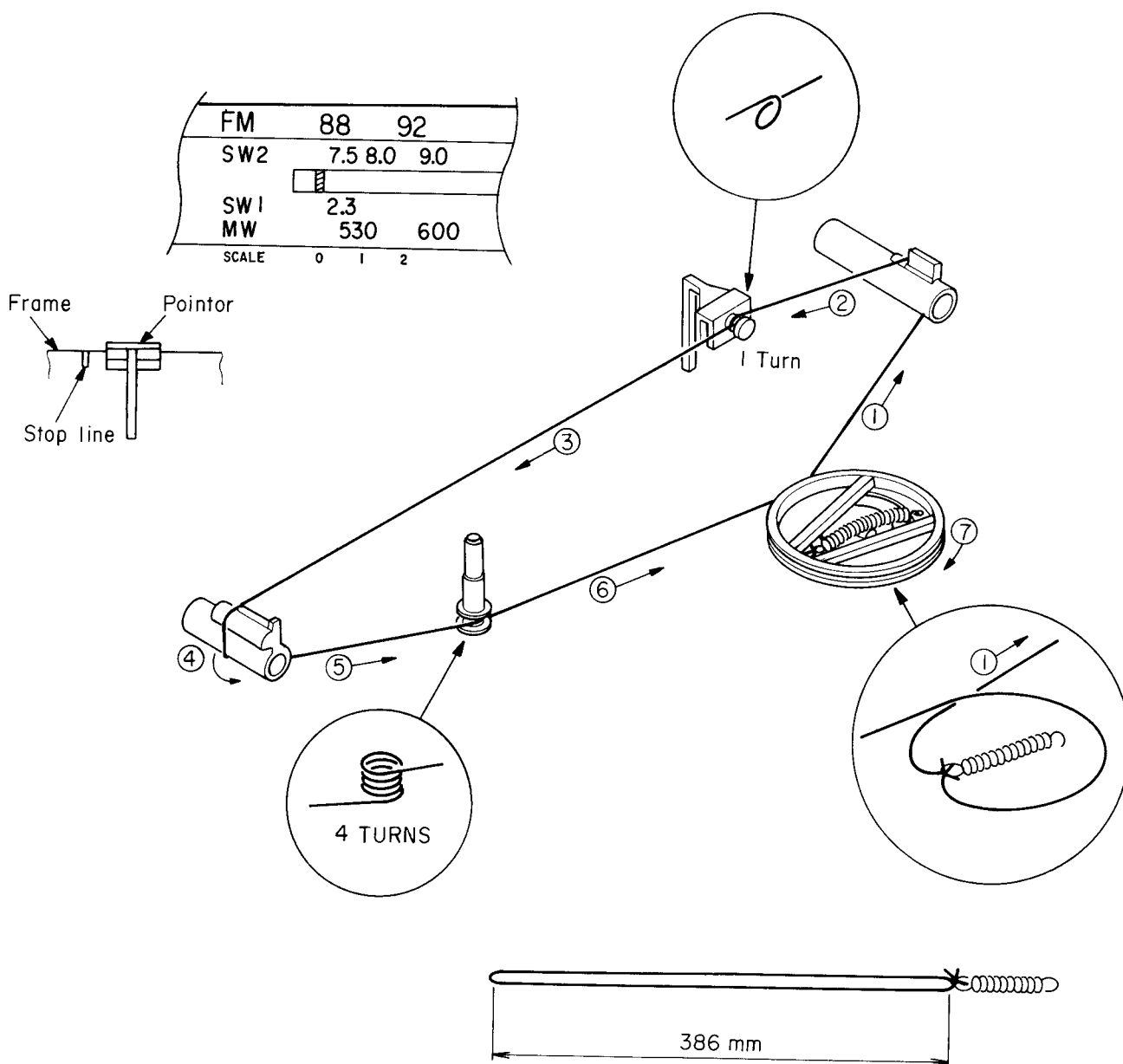


Figure 4

4. ADJUSTMENTS INSTRUCTIONS

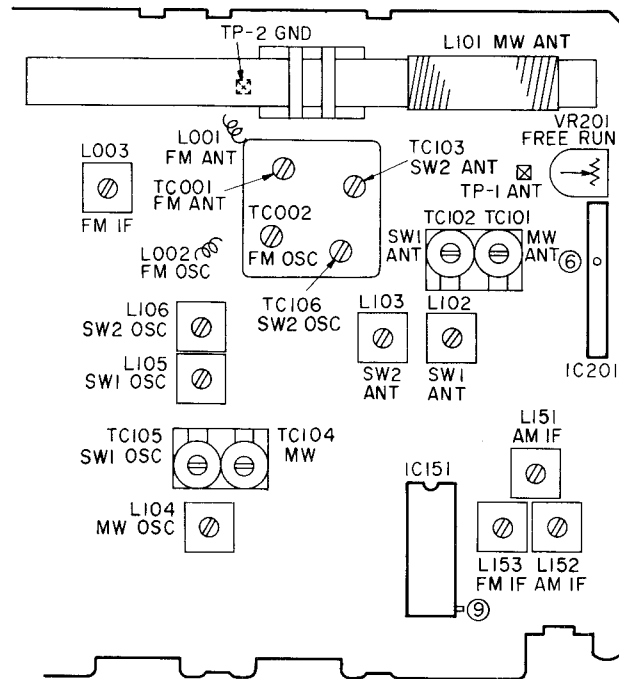


Figure 5

TEST EQUIPMENT

1. Signal generator with a frequency range of at least from 450 kHz to 23 MHz AM.
2. Oscilloscope with a side range amplifier of approximately 100 kHz.
3. Test loop — a coil of any size wire, one turn or more. (MW)
4. A 30 ohm dummy antenna. (SW1, SW2)
5. VTVM

AM ALIGNMENT

1. Turn on the AM signal generator and the VTVM allowing a fifteen-minute warm-up period.
2. Using the test loop across the output of the signal generator, inductively connect the signal generator to the radio.
3. Connect the VTVM across the voice coil or headphone jack.
4. Set signal generator frequency as listed in ALIGNMENT CHART and maintain a sufficient output level to provide an indication on VTVM.
5. Set volume control at mid-position.
6. Proceed as outlined in the IF-MW, SW1 and SW2 ALIGNMENT CHART.

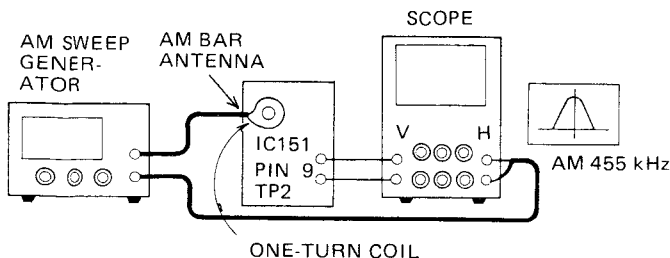


Figure 6

- Note:** 1. Use a screwdriver with plastic grip for all adjustments.
2. Standard test frequency 400 Hz and modulation 30% for AM.
 3. Standard test frequency 400 Hz and deviation 22.5 kHz for FM.

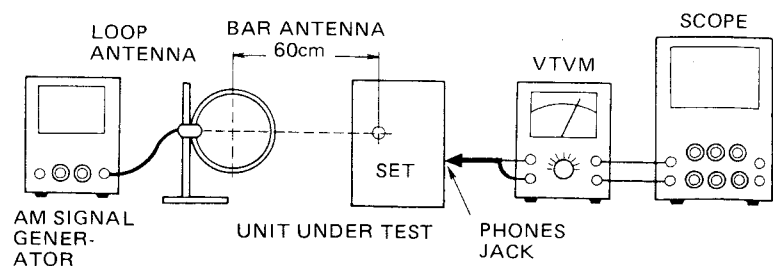


Figure 7

MW ALIGNMENT CHART

Band	Step	Signal Generator Frequency	Radio Dial Setting	Adjustment	Remarks
IF	1	455 kHz	Tuning Gang Fully Counter-clockwise (Lowest Frequency)	L151, L152	Adjust for maximum indication.
MW	2	510 kHz	Tuning Gang Fully Counter-clockwise (Lowest Frequency)	OSC. Coil L104 (MW)	Adjust for maximum indication.
	3	1650 kHz	Tuning Gang Fully Clockwise (Highest Frequency)	OSC. Trim TC104	Adjust for maximum indication.
	4	Repeat steps 2 and 3 as required.			
	5	600 kHz	Tune to Signal.	Ant. Coil L101 (MW)	Adjust for maximum indication.
	6	1400 kHz	Tune to Signal.	Ant. Trim. TC101	Adjust for maximum indication.
	7	Repeat steps 5 and 6 as required.			

SW ALIGNMENT CHART

Band	Step	Signal Generator Frequency	Radio Dial Setting	Adjustment	Remarks
SW1	1	2.25 MHz	Tuning Gang Fully Counter-clockwise (Lowest Frequency)	OSC. Coil L105 (SW1)	Adjust for maximum indication.
	2	7.7 MHz	Tuning Gang Fully Clockwise (Highest Frequency)	OSC. Trim. TC105	Adjust for maximum indication.
	3	Repeat steps 1 and 2 as required.			
	4	3 MHz	Tune to Signal.	Ant. Coil L102 (SW1)	Adjust for maximum indication.
	5	7 MHz	Tune to Signal.	Ant. Trim. TC102	Adjust for maximum indication.
	6	Repeat steps 4 and 5 as required.			
SW2	1	7.35 MHz	Tuning Gang Fully Counter-clockwise (Lowest Frequency)	OSC. Coil L106 (SW2)	Adjust for maximum indication.
	2	22.5 MHz	Tuning Gang Fully Clockwise (Highest Frequency)	OSC. Trim. TC106	Adjust for maximum indication.
	3	Repeat steps 1 and 2 as required.			
	4	9 MHz	Tune to Signal.	Ant. Coil L103 (SW2)	Adjust for maximum indication.
	5	20 MHz	Tune to Signal.	Ant. Trim. TC103	Adjust for maximum indication.
	6	Repeat steps 4 and 5 as required.			

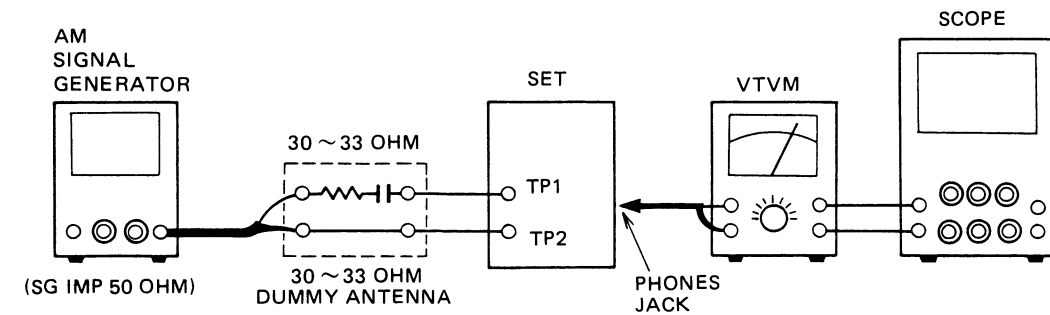


Figure 8

FM-IF ALIGNMENT

1. Set the select switch to FM position.
2. Turn on both sweep generator and oscilloscope, and allow a fifteen-minute warm-up period.
3. Connect the RF SWEEP SIGNAL OUTPUT from the signal generator through the loop antenna to the receiver.
4. Connect the oscilloscope vertical input directly to pin 9 of IC151 and connect the shielded lead to the test point TP2 or chassis ground.
5. Connect the SWEEP VOLTAGE OUTPUT of the sweep generator to the oscilloscope.
6. Proceed as outlined in the FM-IF ALIGNMENT CHART.

FM-IF ALIGNMENT CHART

Step	Signal coupling	Equip.	Tuning	Connection	Adjust. point	Pattern
1	Connect sweep generator output to a three-turn loop antenna of 3 cm diameter.	Sweep generator of 10.7 MHz center freq. with 10.7 MHz marker.	Tuning Knob fully counterclockwise (Lowest Frequency.)	Set scope for connecting output signal from TUN OUT to vertical axis of scope "V" and sweep generator output to horizontal axis "H".	L003 L153	Turn the IF Transformer L153 fully counterclockwise to obtain a single peak. Adjust coil L003 in order until the best single peak is obtained. Figure 10. Finally turn the coil L153 to obtain S curve. See Figure 11.

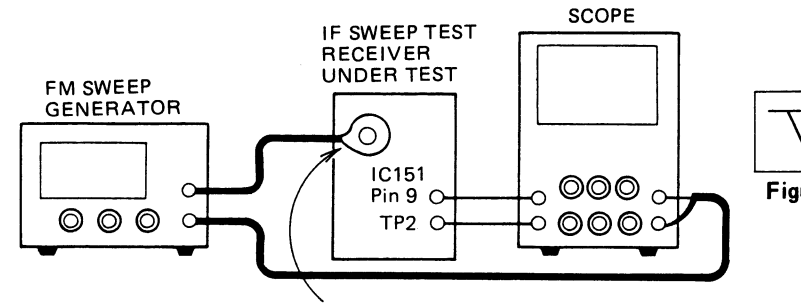


Figure 9

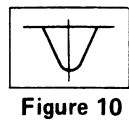


Figure 10

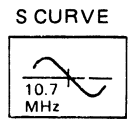


Figure 11

FM-RF ALIGNMENT

1. Turn on the signal generator and the VTVM, and allow a fifteen-minute warm-up period.
2. Connect the signal generator output through a 75 ohm dummy antenna across FM ANT.
3. Connect the VTVM across the voice coil or headphone jack.
4. Set the volume control to mid-position.
5. Adjust the signal generator frequency as indicated in FM-RF ALIGNMENT CHART, and maintain a sufficient signal output level to provide a measurable indication.
6. Proceed as outlined in the FM-RF ALIGNMENT CHART.

FM-RF ALIGNMENT CHART

Step	Signal Generator	Radio Dial Setting	Adjustment	Remarks
1	87.5 MHz	Tuning Knob Fully Counter-clockwise (Lowest Frequency)	OSC. Coil L002	Adjust for maximum output indication.
2	108 MHz	Tuning Knob Fully Clockwise (Highest Frequency)	OSC. Trim. TC002	Adjust for maximum output indication.
3	Repeat steps 1 and 2 as required.			
4	90 MHz	Tune to signal	Ant. Coil L001	Adjust for maximum output indication.
5	106 MHz		Ant. Trim. TC001	
6	Repeat steps 4 and 5 as required.			

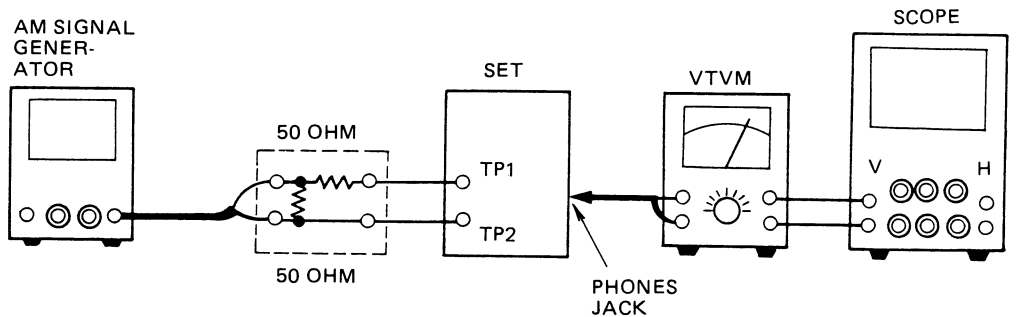


Figure 12

FREE RUN FREQUENCY ALIGNMENT

Adjust VR201 under no signal condition so as to obtain 38 kHz $\pm$ 75 Hz.

RECORD/PLAYBACK HEAD ADJUSTMENT

A 6.3 kHz test tape must be used for this adjustment. Connect a VTVM or an oscilloscope to the headphones jack or speaker terminal and adjust the azimuth by using a phillips screwdriver to maintain the maximum output voltage.

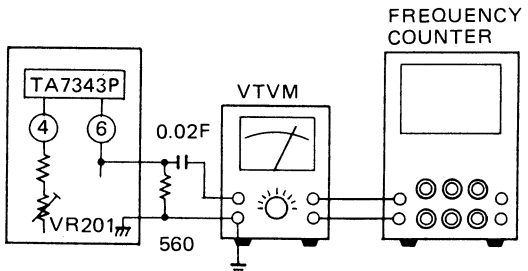
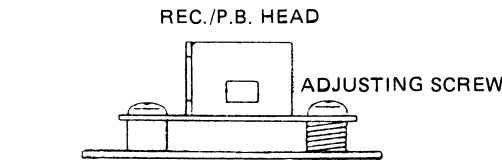


Figure 13

TAKE-UP/SUPPLY REEL TENSION

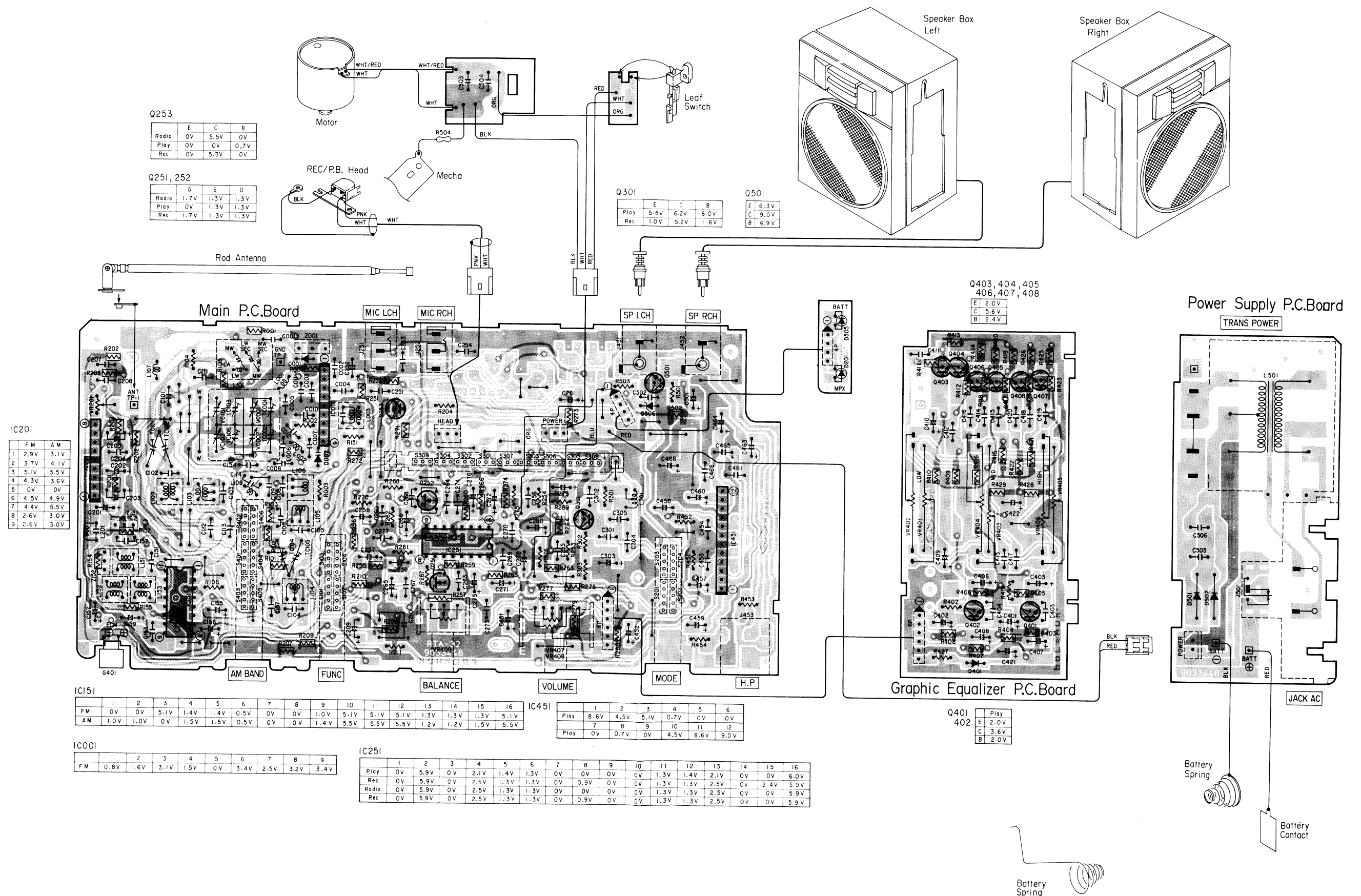
1. Insert cassette torque meter (MARTAK X-87 Torquette).
2. Press PLAY button and read torque meter. Torque should be 35 to 60 gcm.
3. Release PLAY button and press REWIND button. Torque should be 75 to 135 gcm. If necessary, clean take-up reel or drive belt with alcohol, or replace belt.



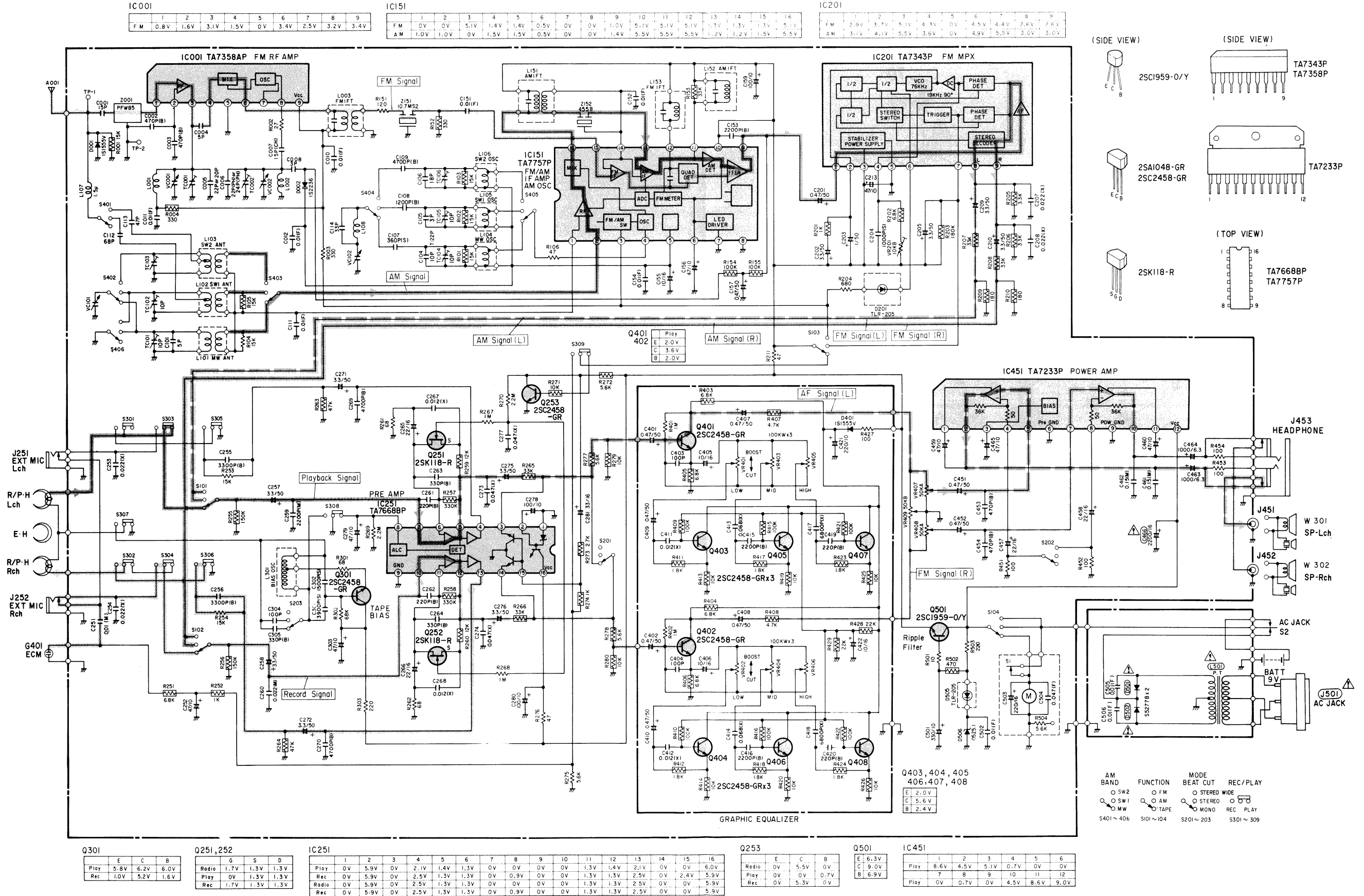
RECORD/PLAYBACK HEAD ADJUSTMENT

Figure 14

5.ELECTRICAL PARTS LOCATIONS



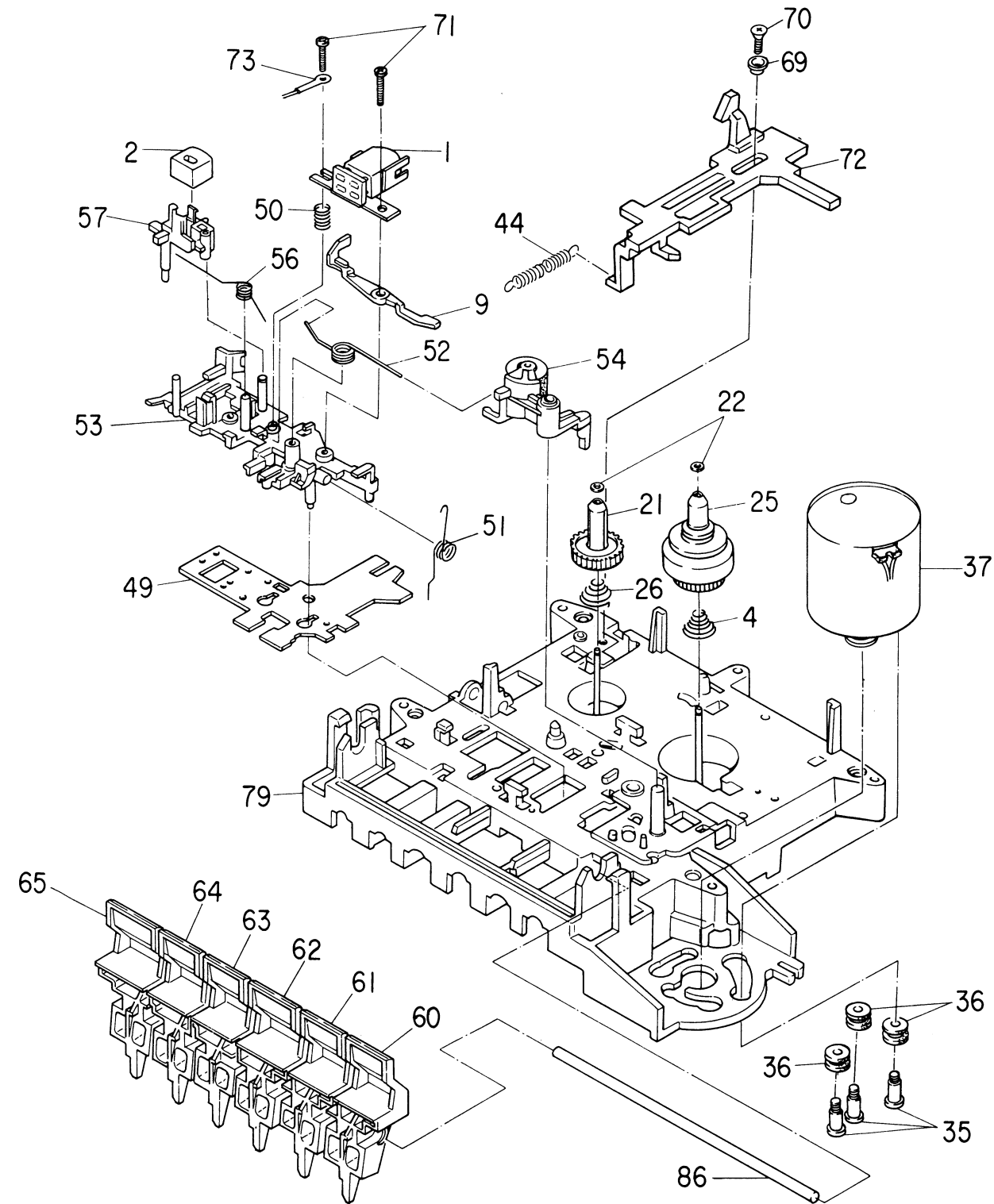
6. SCHEMATIC DIAGRAM



CAUTION:

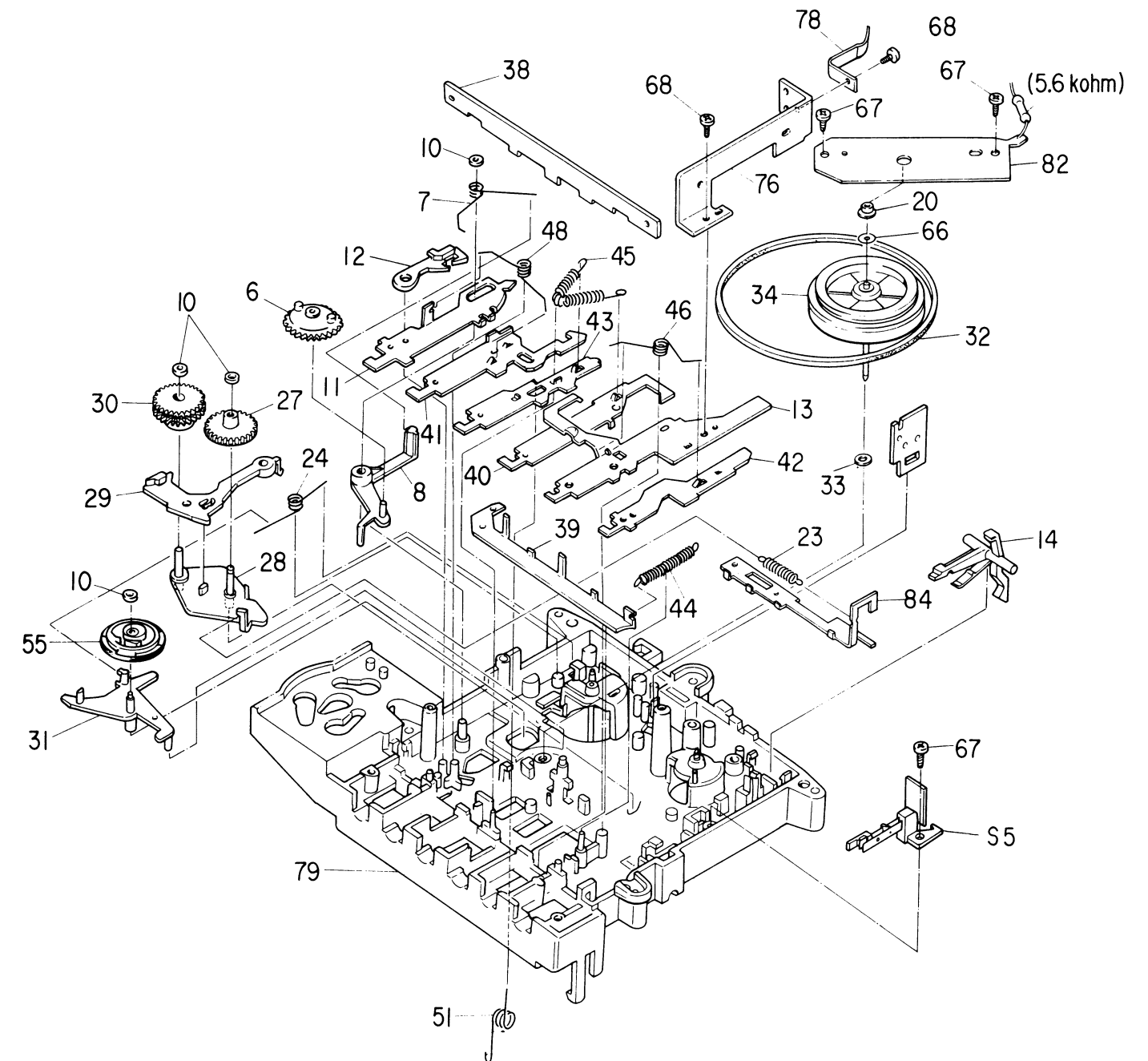
The  mark, the symbol No. circled with oval in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

7-1. EXPLODED VIEW MECHANICAL (UPPER)



NOTE: Parts excluded in the parts list are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

7-2. EXPLODED VIEW MECHANICAL (LOWER)



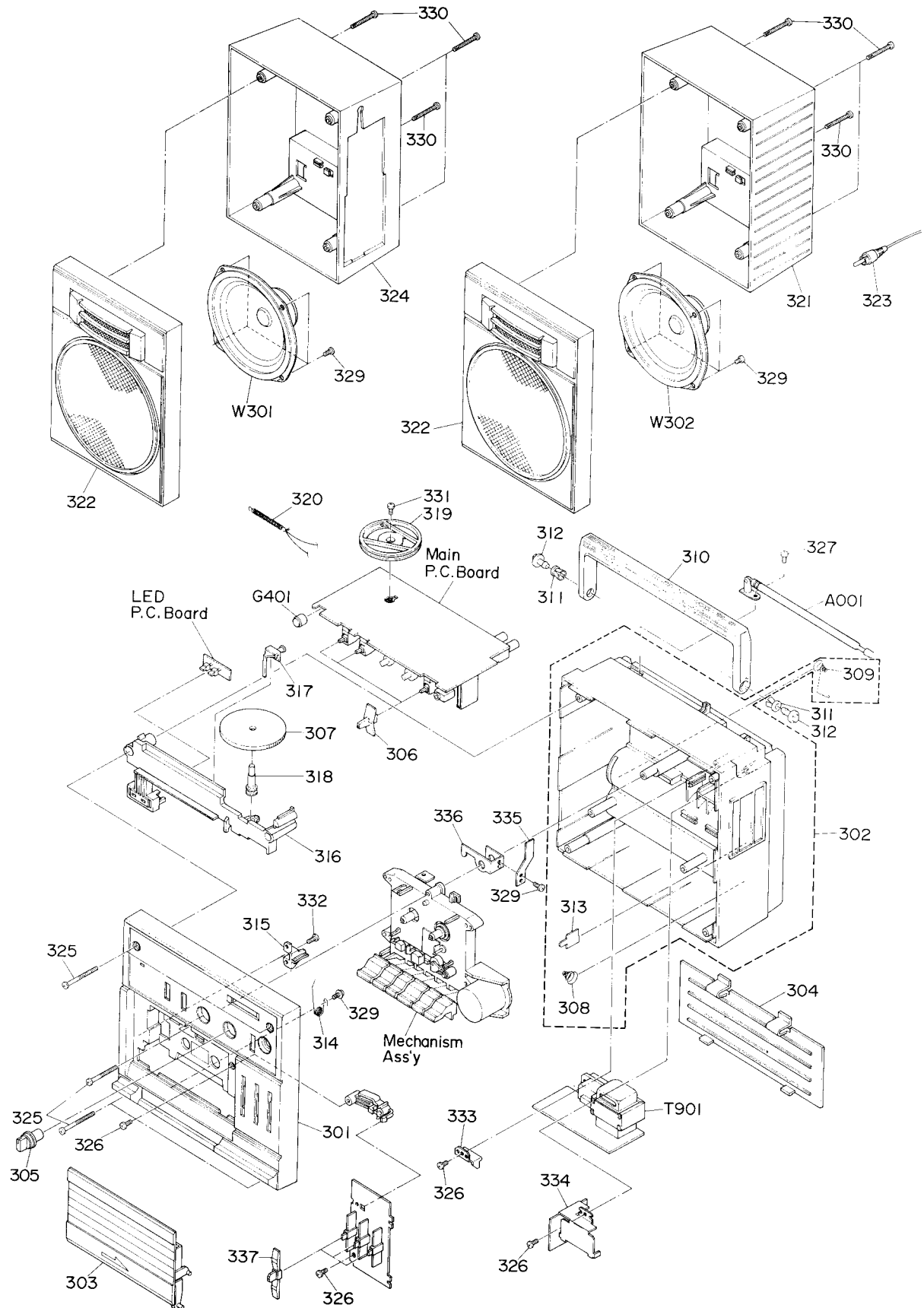
NOTE: Parts excluded in the parts list are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

8. MECHANISM PARTS LIST

K = Black, S = Silver

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
1	22217424	Head, Record/Playback	60	25784299	Knob, Pause
2	22218240	Head, Erase	61	25784298	Knob, Fast Forward
4	25777055	Spring, Back Tension	62	25784297	Knob, Play
6	25756247	ASO Gear	63	25784296	Knob, Rewind
7	25773367	Spring, ASO Lever	64	25784295	Knob, Record
8	25782440	ASO Lever	65	25784294	Knob, Stop
9	25782427	Lever, Detector	67	22707301	Screw, BID Hd. Tapping 2.6d x 8mm
10	25783239	Bushing	68	22707350	Screw, BID Hd. 2.6d x 5mm
11	25741852	Operation Plate, Pause	69	25726659	Spacer
12	25784160	Lever, Pause Lock	70	22707849	Screw, FLT Hd. Tapping 2.6d x 10mm
13	25749013	Operation Plate, Record	71	22707322	Screw, BID Hd. 2d x 10mm
14	25782444	Lever, Record Lock	72	25782562	Slider, Eject
20	25725340	Holder, Flywheel	79	25791446	Main Chassis Ass'y
21	25754386	Reel Plate, Supply			
22	25764549	Washer			
23	25776400	Spring			
24	25773543	Spring			
25	25712392	Reel Plate, Take-up			
26	25777237	Spring, Back Tension			
27	25756179	Gear, High-Speed			
28	25782441	Lever, Rewind			
29	25782442	Lever, Fast Forward			
30	25791353	Gear Ass'y, High-Speed			
31	25783238	Mtg. Plate, Take-up Idler			
32	25755497	Belt, Drive			
33	25766043	Washer, Flywheel			
34	25717486	Flywheel Ass'y			
35	22707747	Screw, Special, Motor			
36	25761327	Cushion, Motor			
37	25791532	Motor Ass'y			
38	25732357	Stop Plate			
40	25749012	Operation Plate, Rewind			
41	25749011	Operation Plate, F.F.			
42	25741865	Operation Plate, Stop			
43	25741844	Operation Plate, Play			
44	25776331	Spring, Lock Slider			
45	25776329	Spring, Operation			
46	25773369	Spring, Operation			
48	25773561	Spring, Operation			
49	25749009	Head Slider			
50	25777056	Spring, Azimuty			
51	25773577	Spring, Head Slider			
52	25773366	Spring, Pressure Roller			
53	25783237	Head Mtg. Plate			
54	25717480	Pressure Roller			
55	25713547	Idler Ass'y, Take-up			
56	25773544	Spring, Head Lever			
57	25782428	Lever, Erase Head			

9. EXPLODED VIEW CABINET



NOTE: Parts excluded in the parts list are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

10. CABINET PARTS LIST

Symbol No.	Part No.	Description
301	25885114 with	Front Cabinet Ass'y, K Front Cabinet: 47011010 Dial Plate: 47011070 Mic. Cushion Decoration Plate, Operation
	without	Cassette Box, Damper, Spring
301	25885115 with	Front Cabinet Ass'y, S Front Cabinet: 47011020 Dial Plate: 47011080 Mic. Cushion Decoration Plate, Operation
	without	Cassette Box, Damper, Spring
302	25885116 with	Back Cabinet Ass'y, K Back Cabinet: 47011110 Battery Contact Battery Spring
	without	Rod Antenna Handle
302	25885117 with	Back Cabinet Ass'y, S Back Cabinet: 47011120 Battery Contact Battery Spring
	without	Rod Antenna Handle
303	25883486	Cassette Holder Ass'y
304	25882662	Battery Cover, K
304	25882568	Battery Cover, S
305	25886433	Knob, Volume
306	25886205	Knob, Lever Switch
307	25886660	Knob, Tuning
308	22771355	Spring, Battery
309	25777364	Battery Spring
310	25825307	Handle, K
310	25825295	Handle, S
311	25825306	Washer, Handle
312	25835552	Lock Pin, K
312	25835548	Lock Pin, S
313	25864007	Contact, Battery
314	25778078	Spring, Cassette
315	25844204	Damper
316	22714427	Frame, Tuner
317	22741414	Pointer
318	22743373	Tuning Shaft
319	22742315	Dial Drum
320	25776709	Spring, Dial Drum
321	25884459	Back Speaker Box, Right, K
321	25884460	Back Speaker Box, Right, S
322	25885118	Front Speaker, K
322	25885119	Front Speaker, S
323	22166156	Pin, Speaker Cord

Symbol No.	Part No.	Description
324	25884461	Back Speaker Box, Left, K
324	25884462	Back Speaker Box, Left, S
325	22707706	Screw, LAX Hd. Tapping 3d x 45mm, Chrome
325	22708263	Screw, LAX Hd. Tapping 3d x 45mm, Black
326	22707802	Screw, BID Hd. Tapping 3d x 12mm
327	22707382	Screw, BID Hd. Tapping 3d x 10mm
328	22707350	Screw, DTBID Hd. 2.6d x 5mm
329	22701434	Screw, PAN Hd. Tapping with Washer, 3d x 10mm
330	22707810	Screw, BID Hd. Tapping 3d x 35mm, Black
331	22707473	Screw, BID Hd. 2.6d x 6mm
332	22707826	Screw, DTBID Hd. Tapping 3d x 10mm
333	25886205	Knob, Slide Volume, Graphic Equalizer

11. PARTS LIST

CAUTION:

The Δ mark, the symbol No. circled with oval in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
TRANSISTORS, IC'S & DIODES			Δ J501/S2	22167990	AC Socket
IC001	B0325500	IC, TA7358P	W301, 302	22152498	Speaker, Woofer, 120mmd
IC151	B0358070	IC, TA7757P	G401	22154233	Microphone, Built-in
IC201	B0325355	IC, TA7343AP	Z001	22153121	Filter, FM RF, PFWB5
IC251	B0356695	IC, TA7668BP	Z151	22153299	Filter, Ceramic, FM
IC451	B0319970	IC, TA7233P	Z152	22153070	Filter, Ceramic, AM
Q251, 252	A6041970	Transistor, 2SK118NEW-R	A001	22124713	Rod Antenna
Q253, 301,	A6332440	Transistor, 2SC2458-GR	S1	22195839	Switch, Leaf, Power ON/OFF
Q401 ~ 408			S101 ~ 104	22196295	Switch, Lever, AM-FM-TAPE
Q501	A6319300	Transistor, 2SC1959NEW-Y	S201 ~ 203	22196295	Switch, Lever, MONO-ST.-ST. W
D001, 401	A7246703	Diode, 1S1555	S301 ~ 309	22196233	Switch, Slide, Record/Playback
D002	A7289000	Diode, 1S2236	S401 ~ 406	22196232	Switch, Lever, AM Band Selector
D201, 501	A8603110	Diode, LED, TLR205	CAPACITORS		
Δ D501, 502	A7978380	Diode, S5277B	D = $\pm 0.5\text{pF}$, J = $\pm 5\%$, K = $\pm 10\%$, M = $\pm 20\%$, Z = $-20+80\%$		
D506	A7110023	Diode, Zener, 05Z5.1	ABBREVIATIONS: CD = Ceramic Disk, PF = Plastic Disk, EL = Electrolytic		
COILS & TRANSFORMERS			VC001/002/	22308622	Variable Capacitor
L001	22294441	Coil, FM Antenna	VC101/102/		
L002	22294528	Coil, FM Oscillator	TC001/002		
L003	22265821	IF Transformer, FM	TC103/106		
L101	22242997	Coil, MW Antenna	TC101/102	22309183	Trimmer, MW/SW ₁ Antenna
L102	22282238	Coil, SW ₁ Antenna	TC104/105	22309183	Trimmer, MW/SW ₁ Oscillator
L103	22282239	Coil, SW ₂ Antenna	C001	22361150	CD, 15pF, 50V, K
L104	22245385	Coil, MW Oscillator	C002	22349471	CD, 470pF, 50V, K
L105	22285319	Coil, SW ₁ Oscillator	C003	22349471	CD, 470pF, 50V, K
L106	22285355	Coil, SW ₂ Oscillator	C004	22361509	CD, 50pF, 50V, D
L107	22291188	Coil, Choke	C005	22360141	CD, 22pF, 50V, J (PH)
L151	22264837	IF Transformer, AM	or C005	22360646	CD, 20pF, 50V, J (PH)
L152	22264838	IF Transformer, AM	C006	22360134	CD, 22pF, 50V, J (CH)
L153	22265873	IF Transformer, FM QUAD	or C006	22360753	CD, 24pF, 50V, J (CH)
L301	22235227	Coil, Oscillator, Tape	C007	22360589	CD, 15pF, 50V, J (CH)
Δ L501	22224318	Power Transformer	C008	22361309	CD, 3pF, 50V, D
ELECTRICAL PARTS			C010	22342103	CD, 0.01mfd, 50V, Z
J251, 252	22198092	Jack, 3.5mmd, Ext. Mic. L/R	C011	22342103	CD, 0.01mfd, 50V, Z
J451, 452	22198020	Jack, Pin, Speaker, L/R	C012	22342103	CD, 0.01mfd, 50V, Z
J453	22198015	Jack, 3.5mmd, Headphone			

Symbol No.	Part No.	Description
C101	22361509	CD, 5pF, 50V, D
C104	22361100	CD, 10pF, 50V, K
C105	22361309	CD, 3pF, 50V, D
C106	22361180	CD, 18pF, 50V, K
C107	22381361	PF, 360pF, 50V, J
C108	22349122	CD, 1200pF, 50V, K
C109	22349472	CD, 4700pF, 50V, K
C111	22342103	CD, 0.01mfd, 50V, Z
C112	22362680	CD, 68pF, 50V, K
C113	22362470	CD, 47pF, 50V, K
C114	22362330	CD, 33pF, 50V, K
C151	22342103	CD, 0.01mfd, 50V, Z
C152	22342103	CD, 0.01mfd, 50V, Z
C153	22349222	CD, 2200pF, 50V, K
C154	22342103	CD, 0.01mfd, 50V, Z
C155	22485100	EL, 10mfd, 16V
C156	22483470	EL, 47mfd, 10V
C157	22488478	EL, 0.47mf, 50V
C159	22483101	EL, 100mfd, 10V
C201	22488478	EL, 0.47mfd, 50V
C202	22488339	EL, 3.3mfd, 50V
C203	22488109	EL, 1mfd, 50V
C204	22380137	PF, 1000pF, 50V, J
C205	22488339	EL, 3.3mfd, 50V
C207, 208	22360548	PF, 0.022mfd, 25V, K
C209, 210	22488339	EL, 3.3mfd, 50V
C251	22360544	PF, 0.01mfd, 25V, K
C252	22483470	EL, 47mfd, 10V
C253, 254	22360548	PF, 0.022mfd, 25V, K
C255, 256	22349332	CD, 3300pF, 50V, K
C257, 258	22488339	EL, 3.3mfd, 50V
C259, 260	22373222	PF, 2200pF, 50V, M
C261, 262	22349222	CD, 2200pF, 50V, K
C263, 264	22349331	CD, 330pF, 50V, K
C265, 266	22485220	EL, 22mfd, 16V
C267, 268	22360545	PF, 0.012mfd, 25V, K
C269, 270	22349472	CD, 4700pF, 50V, K
C271, 272	22488339	EL, 3.3mfd, 50V
C273, 274	22360552	PF, 0.047mfd, 25V, M
C275, 276	22488339	EL, 3.3mfd, 50V
C277	22360552	PF, 0.047mfd, 25V, M
C278	22483101	EL, 100mfd, 10V
C279	22483470	EL, 47mfd, 10V
C280	22483101	EL, 100mfd, 10V
C281	22485330	EL, 33mfd, 16V
C301	22381392	CD, 3900pF, 50V, J
C302	22380139	CD, 1500pF, 50V, J
C303	22483470	EL, 47mfd, 10V
C304	22362101	CD, 100pF, 50V, K
C305	22349331	CD, 330pF, 50V, K

Symbol No.	Part No.	Description
C401, 402	22488478	EL, 0.47mfd, 50V
C403, 404	22362101	CD, 100pF, 50V, K
C405, 406	22485100	EL, 10mfd, 16V
C407, 408	22488478	EL, 0.47mfd, 50V
C409, 410	22488478	EL, 0.47mfd, 50V
C411, 412	22360545	PF, 0.012mfd, 25V, K
C413, 414	22360645	PF, 0.068mfd, 25V, M
C415, 416	22349222	CD, 2200pF, 50V, K
C417, 418	22360542	PF, 6800pF, 25V, K
C419, 420	22349221	CD, 220pF, 50V, K
C421	22483221	EL, 220mfd, 10V
C422	22485100	EL, 10mfd, 16V
C451, 452	22488478	EL, 0.47mfd, 50V
C453, 454	22349471	CD, 470pF, 50V, K
C457, 448	22485220	EL, 22mfd, 16V
C459, 460	22483470	EL, 47mfd, 10V
C461, 462	22372154	PF, 0.15mfd, 50V, K
C463, 464	22482102	EL, 1000mfd, 6.3V
C465	22483470	EL, 47mfd, 10V
C466	22485222	EL, 2200mfd, 16V
C501	22483331	EL, 330mfd, 10V
C502	22342103	CD, 0.01mfd, 50V, Z
C503	22485221	EL, 220mfd, 16V
C504	22342473	CD, 0.047mfd, 50V, Z
C505, 506	22342103	CD, 0.01mfd, 50V, Z
TRANSISTORS		
1. Resistors are Fixed Carbon Film 1/4W $\pm 5\%$, unless otherwise noted. K = 1000, M = 1000000		
2. PR is short for the printed resistor. If replacement of the resistor in PR is required, please use the substitutional fixed carbon film resistor of 1/4W $\pm 5\%$ according to the following list.		
R001	22545153	15K ohm, PR
R002	22555270	27 ohm
R003	22555331	330 ohm
R004	22545331	330 ohm, PR
R101	22545153	15K ohm, PR
R102	22545153	15K ohm, PR
R103	22545153	15K ohm, PR
R104	22545153	15K ohm, PR
R105	22545153	15K ohm, PR
R106	22555470	47 ohm
R151	22555121	120 ohm
R152	22545331	330 ohm
R153	22545333	33K ohm, PR
R154, 155	22545104	100K ohm, PR

Symbol No.	Part No.	Description
VR201	22658761	10K ohm, B, Semi-fixed Variable Resistor, Free Run
R201	22545102	1K ohm, PR
R202	22545682	6.8K ohm, PR
R203	22545184	180K ohm, PR
R204	22555681	680 ohm
R205, 206	22545332	3.3K ohm, PR
R207, 208	22545333	33K ohm, PR
R209, 210	22545181	180 ohm, PR
R211	22555470	47 ohm
R251	22545682	6.8K ohm, PR
R252	22545102	1K ohm, PR
R253, 254	22555153	15K ohm
R255, 256	22545154	150K ohm, PR
R257, 258	22545334	330K ohm, PR
R259, 260	22545123	12K ohm, PR
R261, 262	22555680	68 ohm
R263, 264	22545473	47K ohm, PR
R265, 266	22545333	33K ohm, PR
R267, 268	22555105	1M ohm
R269, 270	22555225	2.2M ohm
R271	22545103	10K ohm, PR
R272	22545562	5.6K ohm, PR
R273	22545272	2.7K ohm, PR
R274	22545102	1K ohm, PR
R275	22555562	5.6K ohm
R276	22555470	47 ohm
R277, 278	22545562	5.6K ohm, PR
R279, 280	22545103	10K ohm, PR
R301	22555680	68 ohm
R302	22555683	68K ohm
R303	22555221	220 ohm
VR401/402, VR403/404, VR405/406	22651668	10K ohm, W, Variable Resistor, Graphic Equalizer
VR407/408	22651669	50K ohm, AX2, Variable Resistor, Volume

Symbol No.	Part No.	Description
VR409	22651582	50K ohm, B, Variable Resistor, Balance
R401, 402	22555105	1M ohm
R403, 404	22545682	6.8K ohm, PR
R405, 406	22545682	6.8K ohm, PR
R407, 408	22545472	4.7K ohm, PR
R409, 410	22555104	100K ohm
R411, 412	22545183	1.8K ohm, PR
R413, 414	22545103	10K ohm, PR
R415, 416	22545104	100K ohm, PR
R417, 418	22545182	1.8K ohm, PR
R419, 420	22545103	10K ohm, PR
R421, 422	22545104	100K ohm, PR
R423, 424	22545182	1.8K ohm, PR
R425, 426	22545103	10K ohm, PR
R427	22555101	100 ohm
R428, 429	22545223	22K ohm, PR
R451, 452	22555101	100 ohm
R453, 454	22555101	100 ohm
R501	22555100	10 ohm
R502	22545471	470 ohm, PR
R503	22555221	220 ohm
R504	22545562	5.6K ohm
ACCESSORIES		
AC01	22176615	Power Supply Cord
AC02	22904663	Owner's Manual
AC03	22105357	Demonstration Tape, C07



TOSHIBA CORPORATION

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